

REMARKS

Claims 4-23 were previously withdrawn.

Claims 24-39 have been added herein.

Claim 1 has been rejected.

Claims 2 and 3 have been objected to.

Reconsideration and full allowance of Claims 1-39 are respectfully requested.

I. ALLOWABLE CLAIMS

The Applicants again thank the Examiner for the indication that Claims 2 and 3 would be allowable if rewritten in independent form. Because the Applicants believe that the remaining claims in this application are still allowable, the Applicants have not rewritten Claims 2 and 3 in independent form.

II. REJECTION UNDER 35 U.S.C. § 102

The Office Action rejects Claim 1 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2003/0016762 to Martin et al. ("*Martin*"). The Applicants respectfully traverse the rejection.

First, the Office indicates that Martin fails to anticipate a "variable phase-shifting circuit" as required by Claim 1. The Applicants respectfully disagree. For example, the Applicants direct the Examiner's attention to Figure 1 and Figure 2 of *Martin*, and in particular to Block 108. Block 108 is a multiphase signal source used to generate a plurality of phases of a carrier

signal. Within Block 108, *Martin* discloses a ring of inverters 202, which act as a ring oscillator. The inverters 202 of *Martin* represent variable propagation delay differential inverters, where a phase difference is provided across each pair of inverters. Nothing in *Martin* discloses that these differential signals actually represent an “input” to the ring oscillator. At most, this may indicate that the ring oscillator of *Martin* is formed from phase-shifting circuits. In particular, the Applicants note that *Martin* fails to disclose any external inputs to its ring oscillator. Thus, the output signal is not variable phase-shifted version of an input signal, as required by amended Claim 1. *Martin* therefore clearly fails to anticipate a “variable phase-shifting circuit,” as required by amended Claim 1.

Second, *Martin* fails to anticipate a “synchronized oscillator” having a “synchronization input” as recited in Claim 1. The Office Action appears to rely on an input to the first inverter 202 of *Martin* as anticipating the “synchronization input” of a “synchronized oscillator” as recited in Claim 1. (*Office Action, Page 2*). The ring of inverters 202 in *Martin* simply represents a standard ring oscillator. A standard ring oscillator is formed from a ring of inverters, where the ring of inverters has an output (or multiple outputs) and no inputs. The input to the first inverter 202 of *Martin* simply represents part of the ring. The input to the first inverter 202 of *Martin* does not represent an input to the ring oscillator. In fact, any assertion that the input to the first inverter 202 represents a “synchronization input” of an oscillator would be completely arbitrary. In terms of “input” to the ring oscillator, nothing would distinguish the input to the first inverter 202 from the input to the second inverter 202 or the input to any other inverter 202 in the ring. In other words, the Office Action would be artificially selecting one set

This block diagram illustrates a PLL system with a feedback loop. The main signal path consists of a REFERENCE FREQUENCY OSCILLATOR (208) connected to a PHASE DETECTOR (206), which is connected to a LOW PASS FILTER (210). The output of the filter is fed back to the phase detector via a PHASE SHIFTER (202). This shifter is implemented as a chain of inverters (202A) with feedback paths (108A) that provide frequency division. The output of the phase shifter is also fed back to the reference frequency oscillator via a FREQUENCY DIVIDER (204).

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The same signal cannot have both a “specified” oscillation frequency” and a “variable free-running oscillation frequency,” as occurs under the Office Action’s application of the claims to the structure disclosed in *Martin*.

For these reasons, the Office Action has not shown that *Martin* anticipates the Applicants’ invention as recited in Claim 1. Accordingly, the Applicants respectfully request withdrawal of the § 102 rejection and full allowance of Claim 1.

III. CONCLUSION

The Applicants respectfully assert that all pending claims in this application are in condition for allowance and respectfully request full allowance of the claims.

SUMMARY

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@munckbutrus.com*.

The Commissioner is hereby authorized to charge any fees connected with this communication (including any extension of time fees) or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

MUNCK BUTRUS P.C.

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